City of Marysville Stormwater Management Program

Plan Year 2015

CITY OF Marysville WASHINGTON

Permit Term – August 1, 2013 to July 31, 2018

CITY OF MARYSVILLE – 80 COLUMBIA AVENUE, MARYSVILLE, WA 98270

CONTENTS

PURPOSE

The National Pollutant Discharge Elimination System (NPDES) Permit (Permit) is a federal permit that regulates stormwater and wastewater discharges to waters of the State. While it is a federal permit, the regulatory authority has been passed to the Washington State Department of Ecology (Ecology). The first Western Washington Phase II Municipal Stormwater Permit was issued by Ecology in January of 2007. The current permit term is five years, beginning August 1, 2013 and ending July 31, 2018.

The Permit requires that all regulated municipalities create and implement a Stormwater Management Program (SWMP) which addresses five required program elements: 1) Public Education and Outreach, 2) Public Involvement and Participation, 3) Illicit Discharge Detection and Elimination, 4) Controlling Runoff from New Development, Redevelopment and Construction Sites and 5) Municipal Operations and Maintenance. Select cities, such as the City of Marysville, are required to provide additional actions applicable to Total Maximum Daily Load (TMDL) requirements. This SWMP Plan will describe the programs planned for the upcoming calendar year.

The SWMP shall be designed to reduce the discharge of pollutants from the regulated small municipal separate storm sewer system (MS4) to the maximum extent practicable (MEP)and meet state AKART (all known and reasonable technologies) requirements and protect water quality.

This permit term also includes a monitoring and assessment component. The Department of Ecology will develop and implement a status and trends monitoring program, a stormwater management program effectiveness study and a source identification information repository. The City will pay into a collective fund to implement these programs.

INTRODUCTION

The City of Marysville is located in Snohomish County approximately five miles north of Everett, and adjacent to the southern border of the City of Arlington. Major highways within the City include Interstate 5, State Route 531, State Route 528 and State Route 529. Burlington Northern Railroad also runs through the City.

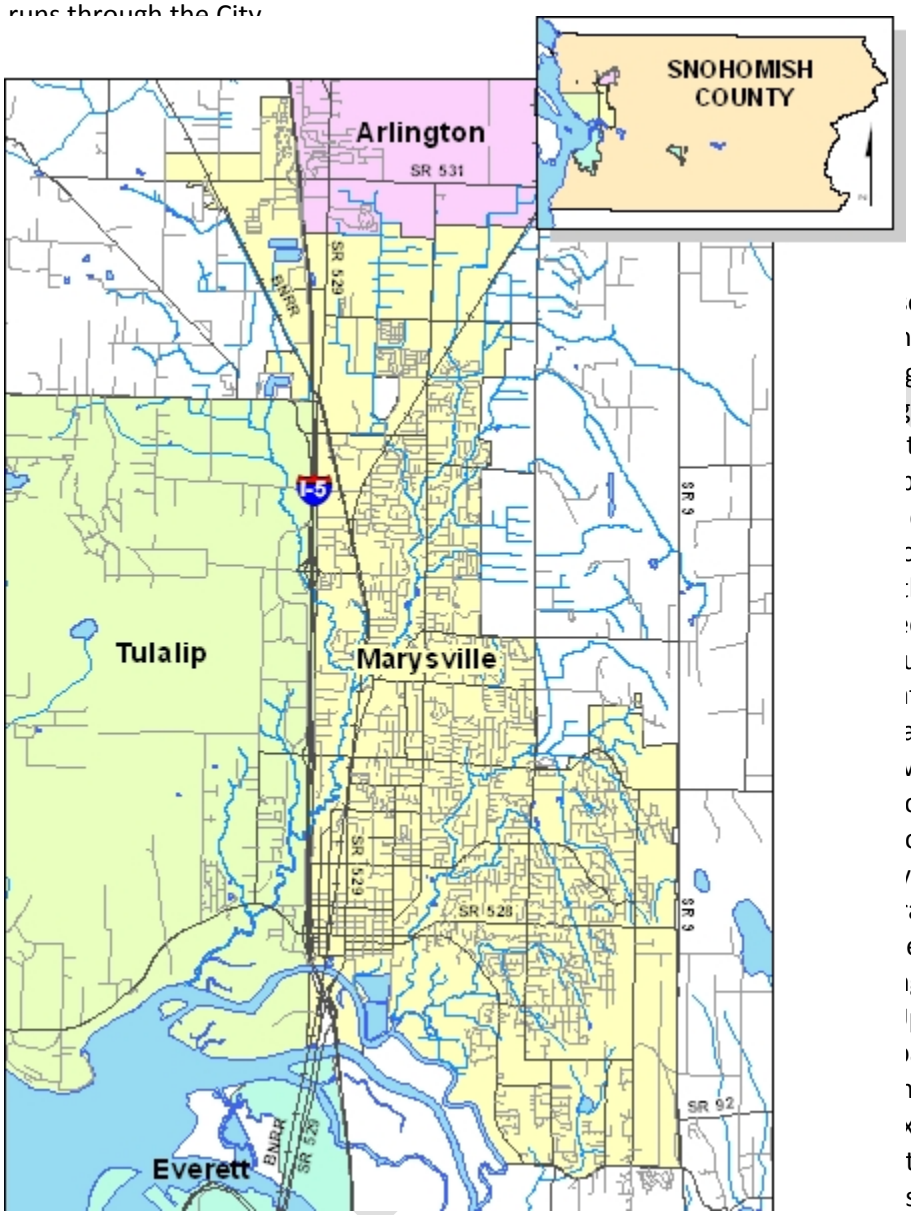

Figure 1 - Regional Map of Marysville

Population and Growth

The City of Marysville was incorporated in 1891 with 350 inhabitants. Timber related industries ed the population to 1250 ts by 1905. As new gs, schools, streets, bridges ghways were built the town's tion continued to grow. It proximately 50 years for the double in size and in 1954, it own to 2,500 people. By he population had again d, but in half the time it had usly taken. Since 1980, the tion has almost doubled ach decade through 2000. ville's location with proximity or employment centers and ortation corridors, the of the natural setting, the ate size of the community, e relatively reasonable g costs make it an attractive pon annexing the majority of an Growth Area (UGA) in ber 2009, the City grew to ximately 58,040 residents. In the population further sed to over 63,000 people.

Land Use Distribution

Marysville is largely comprised of residential neighborhoods. A large majority of the commercial and industrial property is located on the east and west sides of State Avenue, which is the main north south thoroughfare through the City. New commercial and industrial development is occurring in the Downtown, Lakewood and Smokey Point areas of Marysville.

Hydrologic Conditions

The City is part of the lower Snohomish R Basin, in Water Resource Inventory Area (WRIA) 7. Quilceda and Allen watershed are the two sub basins draining a majority of the City. The Quilceda/Allen watershed contains approximately 70 minor streams and tributaries and encompasses an area of approximately 49 square miles. Approximately 11 square miles drains to Allen Creek and the other 38 square miles drains to Quilc Creek. Both of these creeks empty into El Slough near the mouth of the Snohomish River.

The Quilceda Basin consists of till, outwas Custer Norma and saturated soils with th central plain of the basin being comprise primarily of a combination of Custer Norr and outwash soils. The eastern and west hillsides primarily consist of till soils. Till are dense and have limited infiltration capabilities. On the other hand Custer N outwash soils drain well. However, due to high winter groundwater tables in the basin, surface water runoff is common. The Allen basin consists of till, outwash, Custer Norma and saturated soils. Again, due to high groundwater tables in the winter, surface water runoff is common in the Allen Basin. Marysville receives approximately 37.5 inches of precipitation annually with the majority of it falling in the winter and spring months.

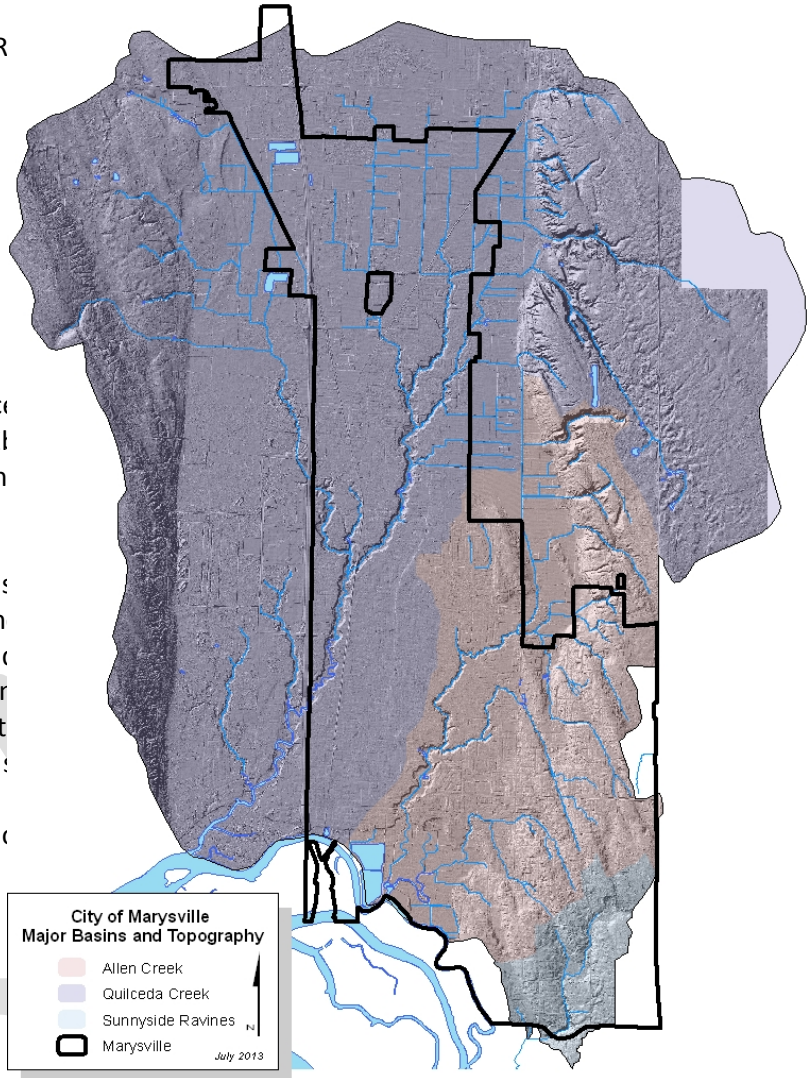

Figure 2 - Marysville Topographic/Watershed Map

Topography

The Marysville Trough is the most prominent topographic feature characterizing the City. The Marysville Trough is an expansive, nearly flat, alluvial plain and runs north south through much of the City. Elevations along the trough range from approximately 130 ft in the north to sea level in the south along Ebey Slough. The Trough is bordered to the west by the Tulalip Plateau and to the east by the Getchel Hill Plateau.

The headwaters to Quilceda and Allen Creeks are located in the northeast, on the Getchel Hill Plateau. The maximum elevation is 430 feet located at the intersection of 74th place and 83rd avenue and slopes in this area are generally northwesterly. The headwaters of Jones, Munson and King Creeks are located

in the southeast on the top of the Getchel Hill Plateau. The maximum elevation in this area is 465 feet, between 60th and 64th streets on Highway 9 at the eastern edge of the City limits.

Receiving Water Quality and Pollutants of Concern

Both Allen and Quilceda creeks have been placed on Washington State's 303(d) list for fecal coliform, requiring Total Maximum Daily Load (TMDL) cleanup plans. Other pollutants of concern within the Allen/Quilceda Watersheds include total suspended solids (TSS), fertilizers, petroleum, detergents, heavy metals and organic wastes. In the summer months, low dissolved oxygen levels are also a concern. Primary sources of pollution in the watershed may include high sediment loads, runoff from agricultural and pasture lands, failing septic systems in older neighborhoods and increased impervious runoff causing high pollutant loading from urbanization. All these activities have potentially detrimental effects on water quality within the watershed.

Storm Water Drainage System

Within Marysville, stormwater runoff from buildings, driveways, parking lots and other impervious surfaces is collected, then conveyed through public and private drainage systems. Most of the public tributary drainage lines are within existing road rights-of-way. Much of the run-off is conveyed to area-wide detention/water quality facilities prior to release or detained and treated on-site and released into the public system. City-owned surface water facilities are complemented by the numerous on-site detention and water quality facilities constructed by private landowners and businesses. The storm drainage system ultimately discharges stormwater to one of the local tributaries or directly to Ebey Slough.

Coordination

Surface Water Management at the City of Marysville works both internally and externally to coordinate permit activates. The primary mechanism for internal coordination is for the Surface Water Management Group to engage other City working groups through meetings and direct involvement in activates and in doing so provide direct support or clarification when needed to reduce barriers to permit compliance. The first of these mechanisms is a regularly scheduled monthly meeting with Planning, Building, Engineering, Fire and Surface Water. This meeting works to create an open dialog regarding current issues throughout the development process and provides a forum for any needed coordination. The Surface Water Inspector is used as a second primary mechanism for internal coordination acting as a direct liaison from the Surface Water Management Group in Community Development. The Surface Water Inspector formally meets with the Engineering Services Manager and the Construction Inspectors from the Community Development Department weekly to discuss ongoing construction projects. The Surface Water Inspector also inspects active construction projects weekly and plats with active home building sites every six months resulting in numerous coordinated actions with both Building and Construction inspectors. Lastly Surface Water Management coordinates two annual trainings for all Utility Crews for BMP training and Illicit Discharge Detection and Elimination Training. While these trainings are utilized to convey the primary subject matter they are also used to relay overall permit concepts, changes in the requirements and the supporting documents like the Stormwater Pollution Prevention Plan or Best Management Practices Documents.

The City of Marysville boarders The City of Arlington, Unincorporated Snohomish County and The Tulalip Tribe Reservation. The City of Arlington is Phase II Permitee and Snohomish County is a Phase I

permitee while the Tribal Land is not covered in by the Washington State NPDES permit program. The primary mechanism for external coordination is through the North Sound Permit Coordinators meetings. These quarterly meetings create a forum to coordinate stormwater management activates for shared water bodies among Permitees to avoid conflicting plans, policies and regulations. Lastly, external coordination is accomplished through the Status and Trends Monitoring Option #1 of section S8 in the Phase II municipal permit.

STORMWATER MANAGEMENT PROGRAM COMPONENTS

1) Public Education and Outreach

Summary Permit Requirements

- Implement an education and outreach program designed to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts and encourage the public to participate in stewardship activities.
- Create stewardship opportunities and/or partner with existing organizations to encourage residents to participate in activities such as stream teams, storm drain marking, volunteer monitoring, riparian plantings and education activities.
- Measure the understanding and adoption of the targeted behaviors for at least one target audience in at least one subject area and use the resulting measurements to direct education and outreach resources most effectively.

Planned Activities

S5.C.1.a: The City has developed an education and outreach program that will be implemented throughout the entire City. The program was designed to educate target audiences about stormwater problems and provide specific actions they can follow to minimize these problems.

S5.C.1.a.i: To build awareness with the general public, including school-aged children and businesses, the City has several activities planned to occur in 2015:

Adopt-A-Street: The City of Marysville Adopt-A-Street Litter Control Program is a stewardship program designed to clean up litter along the right of way, preventing it from being washed into the MS4. Participating groups volunteer to remove litter from an assigned section of street at least four times a year over a two-year period. Groups are usually asked to remove litter from at least six street blocks. In return the Public Works Department posts permanent signs identifying the adopting group, provides safety vests, hard hats and trash bags. When the bags are filled, groups leave them at the clean-up site, and City of Marysville solid waste collectors pick them up.

AQWA Team: The City participates in an annual Earth Day event with the Allen Quilceda Watershed Action (AQWA) Team. This group collaboratively organizes the event each year. During this event volunteers usually plant trees or maintain plantings done in years past. Volunteers receive a t-shirt and visit informational booths. Each booth is staffed by a different AQWA Team organization and has a watershed education theme. After they learned something at the booth, the volunteers put stamps onto a t-shirt. The location, theme and event details have not been planned for 2015, but the City intends to continue participation in this event.

Carwash Kit: The City owns two clean water car wash kits. Clean car washing procedures and the kit are advertized on the City web-site, general information board and a flyer located in a kiosk at the front counter of the Public Works Department building. In 2011 and 2013 letters were sent to businesses that are known to allow charity car washing in their parking lots. The letter included a description of the pollution problem posed by charity car washes and a brochure about the kit. Each

business was asked to distribute information about the car wash kit to any group that wants to host a car wash in their parking lot. The letters to businesses successfully increased the number of times the clean carwash kit was used so it is planned to be repeated in the spring of 2015.

Certified Erosion and Sediment Control Lead (CESCL) Course: The City periodically hosted a Certified Erosion and Sediment Control Lead course during the last five year permit term. The CESCL classes are open to the public, ensuring that local engineers, contractors, and developers have access to appropriate training. Depending on the number of staff members who need certification or recertification in 2015 the City will consider hosting a CESCL course.

City Code: The Marysville Municipal Code contains standards relating to Stormwater treatment and flow control BMPs/facilities, technical standards for stormwater and site and erosion control plans, and low impact development (LID) principals and LID BMPs. City adopted the 2005 Stormwater Management Manual for Western Washington with Ordinance 2816 in January 2010. All review staff and planners have this manual available to them. A link to the Manual is provided on the City website. During the plan review process staff members ensure that the Manual requirements are followed, ensuring that engineers, contractors and developers are aware of the standards. The City does not plan to update this code in 2015. The permit does require an update of these requirements until December 31, 2016.

The City obtained grant funding in 2006 to develop low impact development language to add to the Marysville Municipal Code (MMC). In May of 2007 a new low impact development chapter, 19.49 Low Impact Development, was added to the MMC. By incorporating a LID section into the code, the City is encouraging the use of LID and is offering incentives to developers to utilize LID procedures. This section recommends using the LID techniques and BMP's described in the Low Impact Development Technical Guidance Manual for Puget Sound, 2005, published by the Puget Sound Action Team. The City does not plan on updating these sections of code in 2015.

EDDS: The Engineering Services Department develops the Engineering Design and Development Standards (EDDS). The EDDS are updated frequently as changes are required. These standards must be used by engineers, developers and contractors submitting building plans to the City. The EDDS are publicized on the City website and made available at the front counter of the Public Works Department building.

Elementary Education: The City gives the Marysville School District a reduction in their surface water fees based on the development and implementation of an environmental education program. The District coordinates with the City and a local not-for-profit agency (Sound Salmon Solutions) to provide water quality education to fifth grade students within Marysville. The students take a field trip to a wetland site, owned by the City of Marysville, on Jones Creek. The curriculum covers a range of topics relating to salmon habitat, water quality, macro invertebrates, vegetation, proper car washing procedures, and the storm drain system. The program aims to reduce or eliminate behaviors and practices that cause or contribute to adverse storm water impacts. The field trips are planned for the fall and spring of 2015.

Events: Several general information boards have been made to display at citywide events and present to groups. The boards explain permit requirements, stormwater pollution problems and what the target audiences can do to solve them. Events include the Marysville Street Festival, Touch a Truck, Earth Day and Poochapalooza. The City will also continue to purchase and distribute dog waste bag

dispensers for these events. Poochapalooza is the highest priority event for pet waste education. Along with dispenser distribution, the City also provides informational brochures. The City has been collaborating with Snohomish County during the Poochapalooza event. The County brings other educational materials, give away items, and an educational game. The City plans to continue participation in the Poochapalooza event, and hopes the County will also continue. To track the number of dispensers distributed an Excel spreadsheet with the number of dispensers purchased and distributed is kept. A magnet advertising Marysville's spill reporting number was created in April 2008. The City may choose to redesign the magnet in 2015, but keep the message consistent with the prior design. These magnets are also passed out during citywide events.

Handbooks: The City ordered 250 of the updated "Rain Garden Handbook for Western Washington." This manual was created by Washington State University Extension, Department of Ecology and other project partners. These handbooks are available to City residents at the front counter of the Public Works building and are frequently distributed to homeowners who have drainage problems on their property. The manuals are an excellent source of information about Low Impact Development techniques for the general public, homeowners, landscapers and property managers.

Mutt Mitt stations: Numerous Pet Waste Stations have been installed in City Parks. The Stations and the information associated with them educate the general public on the health and environmental risks associated with pet waste. The City will to continue to maintain the existing pet waste stations and plans to purchase additional stations as parks expand.

TV21: A Microsoft Power Point presentation with information about each of the targeted behaviors was created and is displayed on the City's public access channel, TV21. The Power Point presentation is directed to all target audiences. The content of the presentation is periodically updated to target all of the required education elements in different ways. The information rotates with the other general announcements daily on the public access channel.

Private Facility Inspections: The Surface Water Inspector contacts the owners of private commercial and residential stormwater systems. In most residential situations, everyone in the neighborhood is contacted after an inspection has occurred. This program informs owners about the stormwater system and how illicit discharges may affect the system they are responsible for maintaining. The Stormwater Inspector will continue completing private facility inspections in 2015.

Public Facility Inspections: Door hangers have been created for the maintenance crew to distribute when cleaning stormwater facilities, catch basins and the sanitary sewer. Each door hanger has information about stormwater facility maintenance, spills and illegal dumping or the sanitary sewer system. Notes can be written on the door hangers letting residents know what kind of work was done and when it was completed. The door hangers are frequently used when the public storm system crosses private property in an easement. The door hangers will be used in 2015 as needed.

Table 1: S5.C.1.a.i - Build General Awareness

	Audience					
Subject Area	General Public	Businesses	Engineers	Contractors	Developers	Land use planners
General impacts of stormwater on surface waters	Elementary Ed	LSC				
Impacts from impervious surfaces	TV21					
Impacts of illicit discharges and how to report them	TV21, Events, Carwash Kit	LSC, Carwash Kit				
Low impact development (LID) principals and LID BMPs	TV21, Handbooks		EDDS, Code			
Opportunities to become involved in stewardship activities	AQWA Team, Carwash Kit, Adopt-A-Street	Carwash Kit				
Technical standards for stormwater and site and erosion control plans			CESCL Course, EDDS, Code			
Stormwater treatment and flow control BMPs/facilities	Private & Public facility inspections	Private facility inspections, EDDS, Code				
TMDL: bacterial pollution problems and promote proper pet waste management behavior	TV21, Mutt Mitt stations, Events					

Outreach: The City has been participating in the regional Puget Sound Starts Here (PSSH) campaign and the Stormwater Outreach for Regional Municipalities (STORM) group. The Puget Sound Starts Here campaign was created by a partnership of regional governments dedicated to improving water quality in our local lakes, rivers, streams and ultimately Puget Sound. The campaign is run by the STORM group, which includes 57 cities and counties in conjunction with the Washington State Puget Sound Partnership and Washington State Department of Ecology. The City plans on continuing to attend the local Snohomish County regional STORM meetings. Numerous outreach materials including informational ads on Marysville TV, and brochures have been produced including the PSSH logo. These educational materials will continue to be distributed at City events and at the Public Works Department building.

A flyer addressing issues relating to residential car washing was included with the June/July 2013 utility bills. The flyer included a car wash coupon for a local car wash, information about the Puget Sound Car Wash Association charity car washing program, and the Puget Sound Starts Here logo and web site link. The car washing business was asked to keep track of the number of coupons received. Since a large

number of coupons were used this program will be repeated and possibly expanded to include additional car washing businesses in 2015.

S5.C.1.a.ii To effect behavior change the City has several activities planned to occur in 2015:

Local Source Control (LSC): The City signed a contract with the Department of Ecology, for the Local Source Control (LSC) partnership. The contract term is July 2013 to July 2015. The program offers assistance to businesses that are small quantity generators of waste. These businesses have little oversight and are often in need of technical assistance in order to implement Best Management Practices (BMPs) at their sites. Throughout the contract term, inspections will be conducted at automotive servicing businesses, heavy equipment rental businesses, chiropractors or other businesses with film based X-ray equipment, dentist offices, businesses with trash compactors, and animal handling businesses. Contract funding is being used to provide additional training for the Surface Water Inspector, inspect the business sectors listed above, provide appropriate educational materials to the businesses inspected, provide spill kits and other spill prevention materials where appropriate and provide other support as needed. Other supporting activities may include assisting with development of a spill prevention plan, coordinating stormwater maintenance activities, coordinating waste removal activities and assisting with possible permitting questions. The LSC Program will be continued through 2015.

Natural Yard Care (NYC): The City is collaborating with Snohomish County and the other Cities within the County to provide a regional Natural Yard Care Program. The program is partially funded by a GROSS grant from the Department of Ecology. The Snohomish County partner communities will conduct multi-session lecture series and an extensive program evaluation. The target audience for study will be single-family homeowners residing in urban and suburban areas and having lot sizes 2-acres or less.

Table 2: S5.C.1.a.ii - To affect behavior change

	Audience				
Subject Area	General Public	Businesses	Residents	Landscapers	Property Managers /owners
Use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials		LSC			
Equipment maintenance		LSC			
Prevention of illicit discharges		LSC			
Yard care techniques protective of water quality			NYC		
Use and storage of pesticides and fertilizers and other household chemicals					
Carpet cleaning and auto repair maintenance					
vehicle, equipment and home/building maintenance					
pet waste management and disposal					
LID principles and LID BMP's					
Stormwater facility maintenance					
Dumpster and trash compactor maintenance		LSC			LSC

S5.C.1.b The City provides programs that create stewardship opportunities and partners with other organizations to encourage residents to participate in activities such as stream teams, volunteer restoration activities such as riparian plantings and education activities. For example, the City has an Adopt-A-Street program, described above, and is active with the Allen Quilceda Watershed Action (AQWA) Team. The AQWA Team is comprised of representatives from local city, county and state agencies, the Tulalip Tribe, Marysville Schools, non-profit organizations, local businesses and residents. The meetings allow each group to share what they are doing in the watershed and coordinate efforts when possible. This group collaboratively organizes an Earth Day event each year. The meetings are open to the public. The City also offers support to the AQWA team organizations when they are conducting activities within the City. In October 2013 the City provided mulch and a port-a-potty for a joint Adopt-A-Stream and Snohomish County Conservation District riparian planting project adjacent to Allen Creek.

S5.C.1.c The Department of Ecology maintains a database for tracking site inspections done for the local source control program. After the Surface Water Inspector has completed an inspection, the site information must be entered into the database. This database also records the following "Changes in Business Practices, and Cost of Structural or Other Changes Made by Business" that can be used to demonstrate behavior change. The database can be used to produce reports about the inspections. The City will use this information to direct education and outreach resources most effectively, and evaluate changes in adoption of the targeted behaviors.

During the Natural Yard Care program, the behavioral change being measured for effectiveness will be selected from the five Steps to Natural Yard Care: Build Healthy Soil, Plant Right for Your Site, Smart Watering, Rethink Pesticide Use, and Natural Lawn Care. Knowledge and behavior evaluation will begin before the workshops, at the workshops and again after the workshops.

2) Public Involvement and Participation

Summary Permit Requirements

- Provide ongoing opportunities for public involvement and participation through advisory councils, public hearings, watershed committees, participation in developing rate-structures or other similar activities.
- Post the SWMP Plan and the annual report on the City web site no later than May 31 each year, and make other submittals available to the public upon request.

Planned Activities

S5.C.2.a. To create opportunities for the public to participate in decision-making processes involving the development, implementation and update of the SWMP Plan the City will request public comments annually. Each year a request for comments will be added onto the City utility bills, posted on the front page of the City web site, and the surface water web page. The SWMP will be available for review and comment in January and February of 2015.

S5.C.2.b. The SWMP Plan and the annual report required under S9.A are posted on the Surface Water web page titled "NPDES Phase II Permit" **no later than May 31 each year**. (http://marysvillewa.gov/index.aspx?NID=294). All other submittals are available to the public upon request.

3) Illicit Discharge Detection and Elimination

Summary Permit Requirements

- Mapping the Municipal Separate Storm Sewer System (MS4) on an ongoing basis, with periodical updates as needed.
- Implement an ordinance or other regulatory mechanism to prohibit non-stormwater, illicit discharges into the MS4 to the maximum extent allowable under state and federal law.
- Implement an ongoing program designed to detect and identify non-stormwater discharges and illicit connections into the MS4.
- Implement an ongoing program to address any illicit discharges, including spills and illicit connections, into the MS4.
- Train staff members that are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges to conduct these activities.

Planned Activities

S5.C.3.a Mapping of the MS4 is done using Geographic Information System (GIS) software called ArcGIS. Mapping information is updated on an ongoing basis. The City of Marysville employs two full time GIS staff members to handle the mapping requirements for all City utilities. They digitize the MS4 system into ArcGIS utilizing paper and digital record drawings. A Global Positioning System (GPS) is also used in the field to verify the accuracy of the digitization and to map areas that do not have a record drawing. Before the 2007 Permit issuance GIS staff were only mapping public storm systems. In 2007 GIS staff began mapping all public and private systems that are authorized and/or connected to the MS4. In 2014 an additional temporary surface water GIS employee will be hired to field verify and collect information related to private systems, annexation areas and any other areas that have been identified as missing data.

The City's GIS system includes but is not limited to the following information:

- Known MS4 outfalls
- Receiving waters, other than ground water
- Stormwater pipe (type, material, and size where known)
- Stormwater treatment and flow control BMPs/facilities owned or operated by the City
- Associated drainage areas
- Land use
- Areas served by the MS4 that do not discharge stormwater to surface waters

The City's GIS information is available upon request to Ecology, federally-recognized Indian Tribes, municipalities, and the Public.

S5.C.3.b In 2015 the City will continue to apply Chapter 14.21- Illicit Discharge Detection and Elimination (IDDE), and other related sections in Marysville Municipal Code (MMC) to effectively prohibit non-stormwater illicit discharges into the MS4. The IDDE chapter includes a list of acceptable discharges, conditionally acceptable discharges and prohibited discharges. The City plans to evaluate this chapter to ensure it meets all current permit requirements and update the chapter by February 2, 2018 if changes are needed.

S5.C.3.c The City of Marysville will continue to implement and ongoing program designed to detect and identify non-stormwater discharges and illicit connections into the City's MS4 using the following methods.

S5.C.3.c.i To detect and identify non-stormwater discharges and illicit connections to the MS4 the City will continue using the methods described in the *Illicit Connection and Illicit Discharge Filed Screening and Source Tracing Guidance Manual* prepared by Herrera Environmental Consultants in May 2013. Methods include the addition of IDDE practices into existing inspections and daily work activities and in executing the City's Local Source Control Program.

The City must conduct field screening of at least 40% of the MS4 by December 31, 2017 and 12% of the system thereafter. Stormwater BMP inspections will serve as the primary IDDE inspection method. Existing GIS data will be processed to establish MS4 basins that drain to an individual outfall. The stormwater basin information will be used to quantify how much of the MS4 can be inspected using stormwater BMP inspections, and how much of the system will need to be inspected using other methods. Inspections are expected to continue into 2015.

S5.C.3.c.ii The City will maintain the spill reporting hotline in 2015. The hotline is listed in the blue pages under "spill reporting". The number has also been advertized on magnets distributed at events and advertised on TV21, the City's local access channel. The City keeps records of all calls received and follow-up actions taken.

S5.C.3.c.iii In 2015 the City plans to conduct training for municipal field staff, who, as part of their normal job responsibilities, might come into contact with or otherwise observe an illicit discharge and/or illicit connection to the MS4.

Examples of trainings that the City plans to participate in include Joint Training opportunities with the Department of Ecology, HAZWOPER refresher classes, the Washington State Stormwater Conference and regional STORM Symposium and quarterly meetings.

Follow-up training will be provided as needed to address changes in procedures, techniques, requirements, or staffing. At each training, a record of the content of the training and the staff members trained will be kept.

S5.C.3.c.iv The City will inform public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste through its Local Source Control program, as well as through education and outreach materials.

S5.C.3.d The City will implement an ongoing program designed to address illicit discharges, including spills and illicit connections, into the City's MS4.

S5.C.3.d.i A written procedure for characterizing the nature of and potential public or environmental threat posed by an illicit discharge was completed in 2011. Procedures follow the guidance of the *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and technical Assessment*, from Center for Watershed Protection, October 2004. All illicit discharges, including spills, which may constitute a threat to human health, welfare, or the environment,

are investigated immediately. All other investigations, or referring of investigations, will occur within 7 days of receiving a complaint, report or monitoring information indicating an illicit discharge.

S5.C.3.d.ii A written procedure for tracing the source of an illicit discharge was completed in 2011. Tracing the source of illicit connections will be conducted using the methodologies suggested in the *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and technical Assessment*, from Center for Watershed Protection, October 2004, including visual inspections, opening manholes, using mobile cameras, and collecting and analyzing water samples. All field investigations will occur within 21 days of any report or discovery of a suspected illicit connection to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection.

S5.C.3.d.iii Written procedures for eliminating the illicit discharge were completed in 2011. Procedures include notifying appropriate authorities and the property owner, providing technical assistance for eliminating the discharge, follow-up inspections, escalating enforcement and legal actions if the discharge is not eliminated. If an illicit connection is found the enforcement actions specified in Marysville Municipal Code will be used to eliminate the illicit connection within 6 months.

S5.C.3.d.iv In 2015 a review of these procedures will be done so that they are consistent with *Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual*, by Herrera Environmental Consultants, May 2013. The review will also ensure permit changes are addressed by the procedures.

S5.C.3.e. All staff responsible for identification, investigation, termination, cleanup and reporting illicit discharges, including spills, and illicit connections have read *Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual*, by Herrera Environmental Consultants, May 2013 for initial training on these activities. In 2015 additional follow up training shall be provided as needed to address changes in procedures techniques or requirements. Training will also be expanded to the field crew conducting IDDE stormwater BMP inspections. Training will be developed by the current Surface Water staff members responsible for identification, investigation, termination, cleanup and reporting of illicit discharges.

S5.C.3.f The City will track and maintain records of the activities conducted to meet the requirements of this section in 2015.

4) Controlling Runoff from New Development, Redevelopment and Construction Sites

Summary Permit Requirements

- Implement an ordinance or other enforceable mechanism that addresses runoff from new development, redevelopment, and construction site projects.
- Implement a program that includes a permitting process with site plan review, inspection and enforcement capability.
- Implement a program that includes provisions to verify adequate long-term operation and maintenance (O&M) of stormwater treatment and flow control BMPs/facilities.
- Train staff members that are responsible for are implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement.
- By December 31, 2016 review and revise City development-related codes, rules, standards, or other enforceable documents to incorporate and require LID principles and LID BMPs. The intent of the revisions shall be to make LID the preferred and commonly used approach to site development.

Planned Activities

S5.C.4.a The City will implement the ordinance that was adopted under the 2007 permit to addresses runoff from new development, redevelopment, and construction site projects. By December 31, 2016, the City will adopt a new ordinance or other enforceable mechanism to implement the new provisions of the 2013 to 2018 permit term.

S5.C.4.b The City will implement the permitting process that was adopted under the 2007 permit that includes site plan review, inspection and enforcement capability. The program is implemented for both private and public projects, and is directed by qualified personnel. The City will review the current program to ensure compliance with the new provisions of the 2013 to 2018 permit term. If any changes are needed then they will implemented no later than December 31, 2016.

S5.C.4.c The City will implement the provisions to verify adequate long-term operation and maintenance (O&M) of stormwater treatment and flow control BMPs/facilities that were adopted under the 2007 permit. These provisions will be reviewed to ensure compliance with the new provisions of the 2013 to 2018 permit term. If any changes are needed then they will be in place no later than December 31, 2016.

S5.C.4.d Copies of the Notice of Intent for Construction Activity and Notice of Intent for Industrial Activity are made available to representatives of proposed new development and redevelopment sites. They are available at the City of Marysville Community Development/Public Works Department front counter as well as the City web page.

S5.C.4.e All staff whose primary job duties are implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review,

construction site inspections, and enforcement, are trained to conduct these activities. Follow-up training will be provided as needed to address changes in procedures, techniques or staffing.

S5.C.4.f In 2015 the City will begin the initial planning to complete review, revision and implementation of local development-related codes, rules, standards, or other enforceable documents. The intent of the process is to make LID the preferred and commonly used approach to site development. The revisions will be focused on minimizing impervious surfaces, native vegetation loss, and stormwater runoff in all types of development situations. The final review, revision and implementation process will be completed no later than December 31, 2016.

S5.C.4.g The City is not included as part of a watershed selected by a Phase I county for watershed-scale stormwater planning under condition S5.C.4.c of the *Phase I Municipal Stormwater General Permit.* Therefore, the City does not plan to participate in watershed-scale stormwater planning with Snohomish County as part of this permit term.

5) Municipal Operations and Maintenance

Summary Permit Requirements

- Implement maintenance standards that are as protective, or more protective, of facility function than those specified in Chapter 4 of Volume V of the *2012 Stormwater Management Manual for Western Washington*.
- Annual inspection of all municipally owned or operated permanent stormwater treatment and flow control BMPs/facilities, and taking appropriate maintenance actions in accordance with the adopted maintenance standards.
- Spot checks of potentially damaged permanent stormwater treatment and flow control BMPs/facilities after major storm events.
- Complete inspections of all catch basins and inlets owned or operated by the City at least once by August 1, 2017 and every two years thereafter.
- Implement practices, policies and procedures to reduce stormwater impacts associated with road maintenance activities and runoff from all lands owned or maintained by the City.
- Train staff members who have construction, operations or maintenance job functions that may impact stormwater quality.
- Implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the City.

Planned Activities

S5.C.5.a In 2015 the City will continue to implement the maintenance standards adopted under the 2007 Permit. By December 31, 2016, the City will adopt and implement the maintenance standards of Chapter 4 of Volume V of the 2012 *Stormwater Management Manual for Western Washington*. If the Stormwater Manual does not have a maintenance standard that applies to a stormwater facility, then the City will use the manual developed by the manufacturer of the facility. In all cases, the applicant shall provide the proposed maintenance program to the City for approval before construction of the facility occurs.

S5.C.5.b Annual inspection of all municipally owned or operated permanent stormwater treatment and flow control BMPs/facilities is completed by the Stormwater Maintenance crew or Surface Water staff and maintenance needs are noted. The inspections are tracked using a laptop in the field, with a customized GIS/ Access database program. This ensures that all new facilities will be inspected each year and inspection records are maintained. The records will be compiled annually and kept in a central location.

S5.C.5.c The Surface Water staff and the Storm Water Maintenance crew created a list of high priority facilities to check after major storm events. An online precipitation gauge is used to determine if a storm is greater than a 24-hour 10-year recurrence interval. If the storm event is large enough to require spot checks Surface Water staff or the Stormwater Maintenance crew complete inspections of the high priority facilities and complete an inspection check list. If damage is found all stormwater facilities that may be affected will be inspected. Repairs will be conducted based on the results of inspections. Records of the inspections are downloaded at least annually from the Storm Water

Maintenance crew laptop to a central location for tracking purposes. In 2015 staff members will reevaluate the list of high priority facilities to inspect after major storm events.

S5.C.5.d For the 2013 to 2018 permit term all catch basins and inlets owned or operated by the City must be inspected at least once by August 1, 2017 and every two years thereafter. Therefore, the City has been broken into four grids (see Figure 3). Between the permit effective date of August 1, 2013 and August 1, 2014 one of the grids will be completed. One grid will be completed each year until August 1, 2017, and then two grids will be completed for the following year. Inspection and maintenance activity will be recorded in the field using GIS/GPS equipment and a Microsoft Access database. The City has a laptop computer installed in the vactor truck. The inspection and maintenance records are stored in an Access database on the laptop. The records are digitally compiled at least annually and kept in a central location. A map of the cleaning grids can be found at the end of this section in Figure 5.1.

S5.C.5.e The inspection and maintenance program is designed to inspect all sites and to achieve at least a 95% inspection rate. A method for recording each maintenance activity described above has been established. The systems rely heavily on the City GIS data requiring accuracy in the data collected in the field. GIS also allows staff to compile maintenance data and track maintenance progress in the office on an annual basis.

S5.C.5.f In 2015 the City will continue to implement practices put in place under the 2007 permit term to reduce stormwater impacts associated with runoff from all lands owned or maintained by the City. These practices will be reviewed and documented as formal policies and procedures in 2015.

Table 3: S5.C.5.f - Required activities to be addressed by City practices, policies and procedures

Activity	Practice/Policy/Procedure
Pipe cleaning	BMP Document 2012
Cleaning of culverts that convey stormwater in ditch systems	BMP Document 2012
Ditch maintenance	BMP Document 2012
Street cleaning	A grid system has been created for street sweeping and other road maintenance activities. A map of the cleaning grids can be found at the end of this section, Figure 5.2.
Road repair and resurfacing, including pavement grinding	BMP Document 2012
Snow and ice control	BMP Document 2012
Utility installation	BMP Document 2012
Pavement striping maintenance	BMP Document 2012
Maintaining roadside areas, including vegetation management	BMP Document 2012
Dust control	BMP Document 2012
Application of fertilizers, pesticides, and herbicides according to the instructions for their use, including reducing nutrients and pesticides using alternatives that minimize environmental impacts	The City Parks department developed an Integrated Pest Management Plan (IMP) in 2000. This plan was updated and expanded upon in 2010 to meet the permit requirements.

Sediment and erosion control	BMP Document 2012
Landscape maintenance and vegetation disposal	BMP Document 2012
Trash and pet waste management	BMP Document 2012
Building exterior cleaning and maintenance	BMP Document 2012

S5.C.5.g The City developed an on-going training program for employees whose construction, operations or maintenance job functions may impact stormwater quality under the 2007 permit. Various training methods are used. The Surface Water Staff periodically present information to the field crews about BMP's. All crews have been given the City BMP manual from 2010 as a guide in the field. An updated BMP Field Manual will be made available with any new BMPs as regulations change. Public Works field crew Leads and the Surface Water Inspector attended the ESA Track 3F: Road Maintenance Crew Training in the Field Environment. The Lead workers and the Surface Water Inspector are responsible for ensuring that City field crews implement the practices they learned at the Track 3F training. Other trainings include pesticide recertification, excavation and trenching safety, and confined spaces training. These various trainings are conducted as needed to enhance the knowledge of field staff members and keep certifications current. The City documents the trainings to maintain a record of the trainings provided and the staff trained.

The City also maintains an internal web site. Applicable training materials are posted there on a Surface Water page. This ensures that all employees have access to the materials, even if they were not present on the training day. Follow up training is provided as needed to address changes in procedures, techniques or requirements.

S5.C.5.h The City has developed a Storm Water Pollution Prevention Plan (SWPPP) for all City owned heavy equipment, maintenance and storage yards and materials storage facilities. This document was created collaboratively between many departments in the City. Department heads are responsible for the implementation of BMP's applicable to their work groups. The SWPPP will be updated in 2014 after construction associated with a redesign of the decant facility is completed and crews have begun to use the facility.

S5.C.5.i The City will maintain records of inspections and maintenance activities conducted as a requirement of the permit. The type and format of record kept varies by activity.

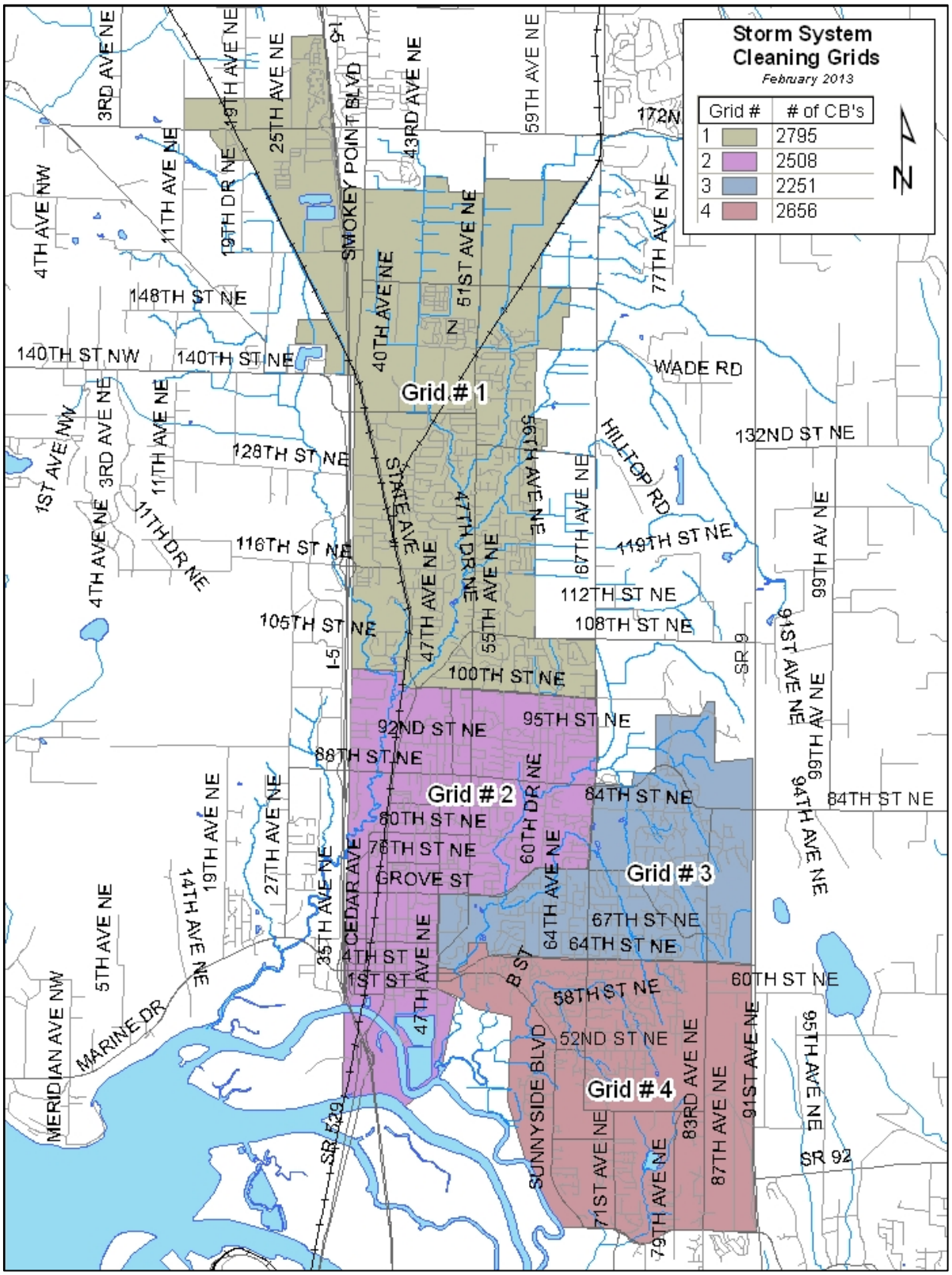

Figure 3- Catch basin cleaning grids

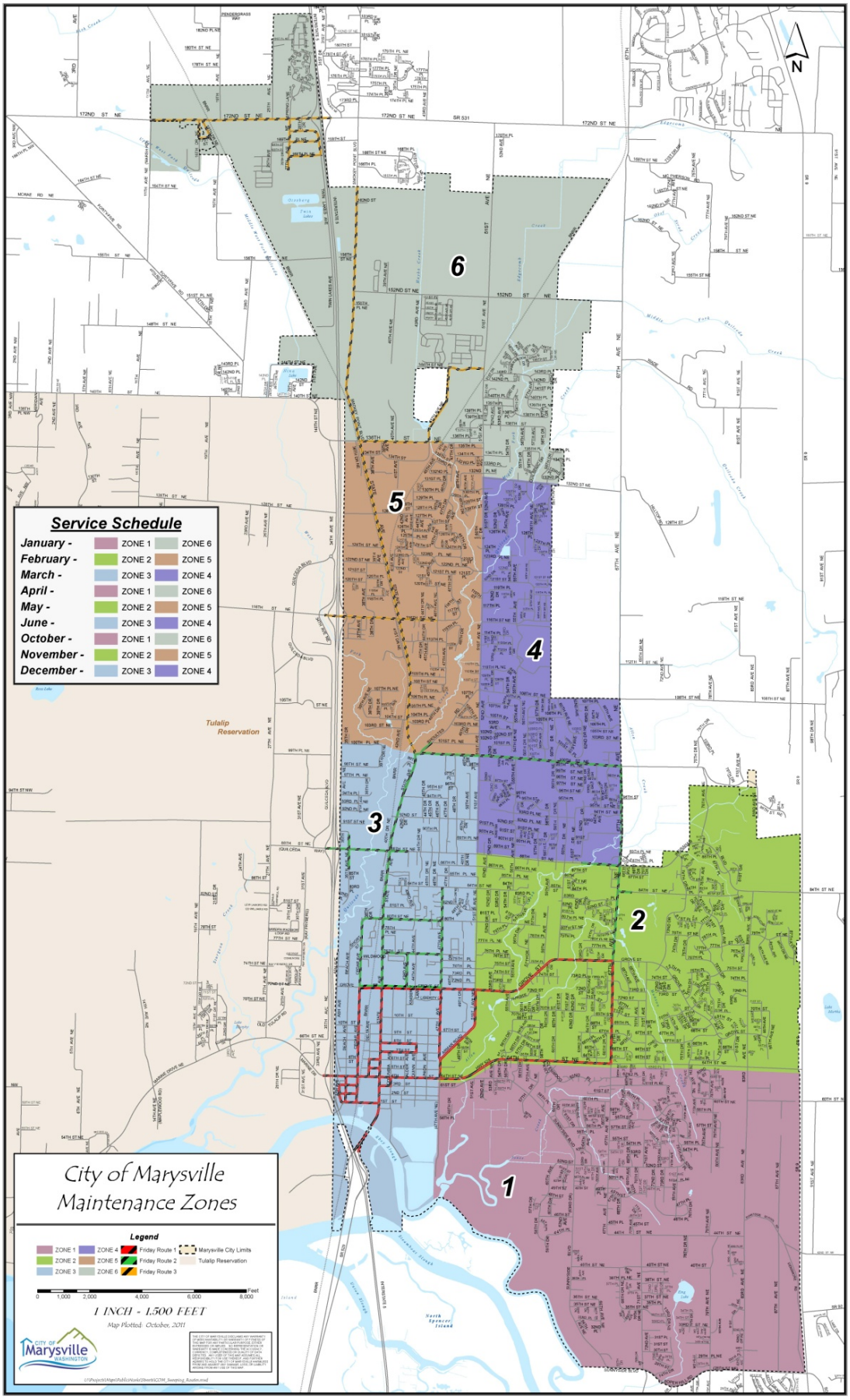

Figure 4 - Street sweeping grids

6) Total Maximum Daily Load (TMDL) Requirements

Summary Permit Requirements

- Inspect commercial animal handling areas and commercial composting facilities to ensure implementation of source control BMPs for bacteria and implement an ongoing inspection program to re-inspect facilities with bacteria source control problems a minimum of every three years.
- Conduct public education and outreach activities to increase awareness of bacterial pollution problems and promote proper pet waste management behavior.
- Install and maintain animal waste collection and/or education stations at City parks and other City owned and operated lands reasonably expected to have substantial domestic animal use.
- When conducting IDDE-related field screening under section S5.C.3 of the Permit include screening for bacteria sources.
- Review fecal coliform data collected under the 2007 Permit and identify one high priority area that will be the focus of source identification and elimination efforts. The source identification and elimination program shall be implemented no later than August 1, 2014. The City shall prepare written documentation of this review and the identified high priority area; documentation will be submitted with the Annual Report for 2014.
- Each Permittee shall review the fecal coliform data collected under the 2007 Permit and select surface water monitoring location(s) as appropriate for continued characterization and long-term trends evaluation of fecal coliform.

Planned Activities

Business Inspections: In 2014, a list of all the licensed animal handling businesses in Marysville and the Snohomish Health District's solid waste sites of record will be used to locate animal handling areas within the City. Commercial animal handling areas associated with Standard Industrial Code (SIC) 074 and 075 will be identified from these two lists. The map of businesses completed for the 2007 Permit term will be updated to include any new businesses. All commercial animal handling businesses will be sent educational information about applicable BMP's and a notice that they will be inspected. Inspections are expected to begin in 2014 and will be completed by August 1, 2016.

The Surface Water Inspector will conduct the inspections. The inspector will look for the use of applicable BMP's. If BMP's are not being used, the Inspector will inform the business of corrections verbally, and in writing, and scheduled a return inspection if needed. If the corrections are not made, the business information will be passed on to code enforcement. Businesses that do not have applicable BMP's in place during the initial inspection will be subject to re-inspection every three years. Re-inspections may be conducted more frequently depending upon the severity of the initial violation.

Public Education and Outreach: The City has developed an education and outreach program per section S5.C.1. of the Permit. To build awareness about bacterial pollution several actions will target behaviors that could contribute to this type of pollution, including general information boards, participation in citywide events, and TV21.

General information boards have been made that explain permit requirements, stormwater pollution problems, pet waste management and what the target audiences can do to solve these issues. The boards are displayed at festivals and events Citywide. Events include the Homegrown Festival; Touch a

Truck, Earth Day and Poochapalooza: The City will continue to purchase and distribute dog waste bag dispensers for these events. Poochapalooza is the highest priority event for pet waste education. Along with dispenser distribution, the City also provides informational brochures. The City has been collaborating with Snohomish County during the Poochapalooza event. The County brings other educational materials, give away items, and an educational game. The City plans to continue participation in the Poochapalooza event, and hopes the County will also continue. To track the number of dispensers distributed an Excel spreadsheet with the number of dispensers purchased and distributed is kept. Another avenue for general awareness and outreach is TV21 the City's local access channel. A Microsoft Power Point presentation with information about each of the targeted behaviors was created and displayed on the public access channel. The information rotates with the general announcements daily.

Operations & Maintenance: Numerous Pet Waste Stations have been installed in City Parks. The Stations and the information associated with them educate the general public on the health and environmental risks associated with pet waste. The City has identified an additional three areas that should have pet waste stations. The stations will be purchased and installed by December 2014. The City will to continue to maintain the existing pet waste stations and plans to purchase additional stations as parks expand.

Illicit Discharge Detection and Elimination (IDDE): During any IDDE field activities, screening for bacteria sources will be included.

Targeted Source Identification & Elimination: The City has conducted a review of the fecal coliform data collected per the approved QAPP under the 2007 Permit. From this review, Munson Creek was identified as a high priority area and will be the focus of source identification and elimination efforts during this permit cycle. City staff members believe that targeted efforts within this watershed can be effective in improving stream health because this tributary is entirely within City limits. Written documentation of the review has been completed and will be submitted with the Annual Report for 2014.

The objective of sampling in the Munson Creek Basin is to determine the location of possible bacterial pollution sources, and discover if bacteria levels fluctuate seasonally in different segments of the stream. The City will begin to implement source identification and elimination efforts in the Munson Creek basin January 2014 and continue until July 2015. The sampling duration will be long enough to provide a year and a half of data and represent sampling in all seasons. Sampling locations were chosen to isolate suspected sources of bacterial pollution. Accessibility and parcel ownership were also factors in determining the sample locations. See Figure 6.1 for a map of sampling locations. Grab samples for fecal coliform will be collected at five main stream locations on a monthly basis. In December of 2014, it was determined that an additional grab site will be added to the north side of the Grove Street sampling location to determine by analysis the location of any pollution generating areas along Munson Creek. Samples will be taken to the Everett Environmental Lab or the Marysville Waste Water Treatment Plant Lab for analysis. Sampling events may also include testing for E. coli, pH, conductivity, turbidity, dissolved oxygen, flow rate and temperature as needed or desired on a case-by-case basis. These variables may not be recorded each sampling event because the equipment may not be available for use and/or the cost of sampling may be too high.

Based on sampling results the City will prioritize potential bacteria pollution sources to be addressed or investigated further. Probable sources for investigation are sewer alignments close to the creek, septic systems, and waterfowl or other wildlife. The sample results should narrow the location to begin further investigation and therefore rule out, or include, some of the potential sources. The City may employ a mobile sewer camera, vactor truck, and/or dye testing to investigate the potential for sewer contamination from existing sewer lines near the creek. Investigation into potential septic contamination may include field investigation with the Snohomish Health District, dye testing, sampling for optical brighteners, a stream walk and/or microbial source tracking. If sewer and septic systems have been ruled out as sources of pollution then microbial source tracking may be employed to determine if contamination is coming from waterfowl or other wildlife.

In each annual report, the City will provide a TMDL summary including qualitative and quantitative information about the source identification and elimination activities, procedures followed and sampling results.

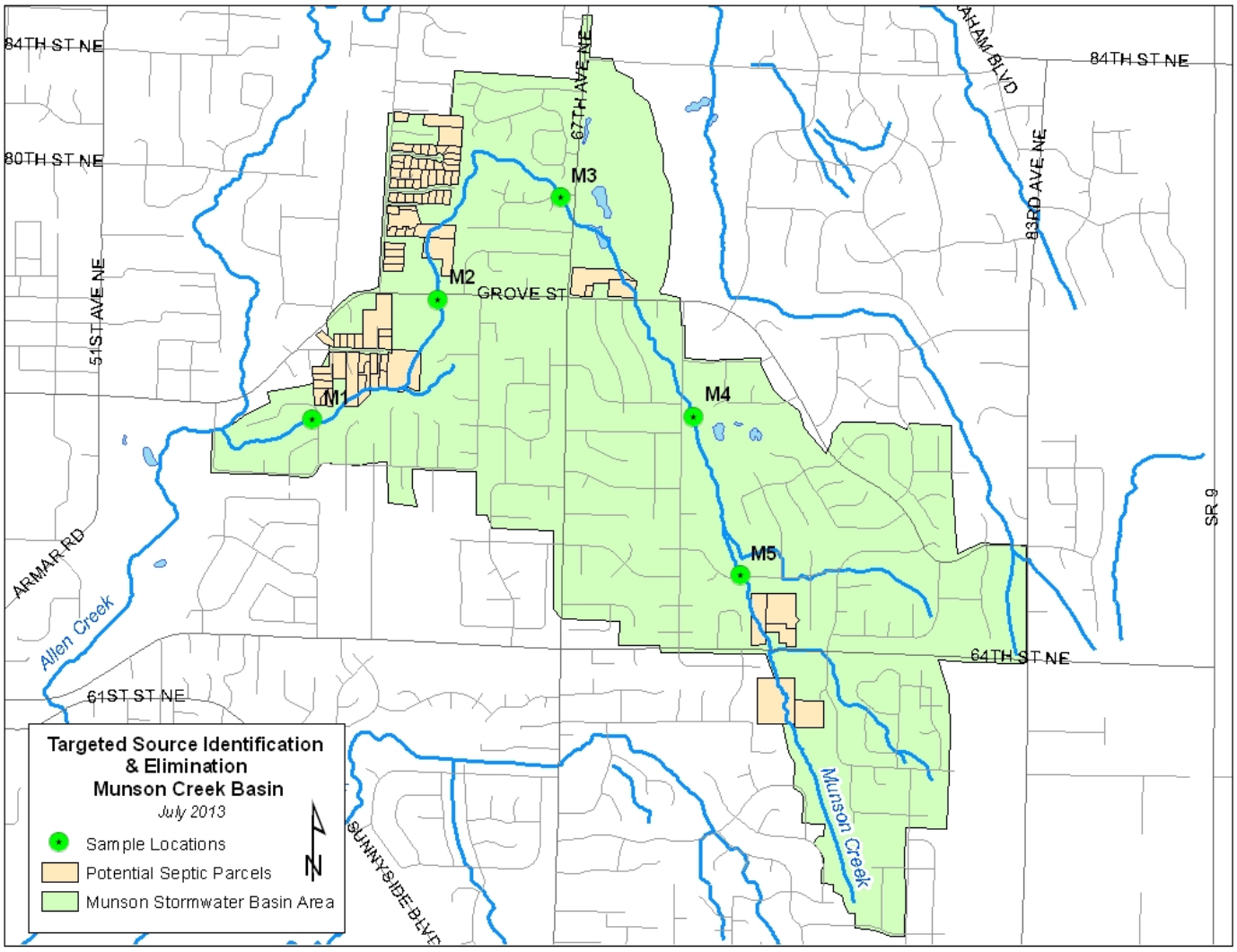

Figure 5 - TMDL Sampling Locations, Munson Creek Basin

Surface Water Monitoring: At the end of 2014, staff will begin to update the QAPP that was developed under the 2007 permit in preparation for the Surface Water Monitoring Program.

Monitoring and Assessment

S8.A. Section S8 of the NPDES Phase II Permit requires that all permittees provide a description of any stormwater monitoring or stormwater-related studies conducted by the Permittee during the reporting period in their annual report. Permittees are not required to provide descriptions of any monitoring, studies, or analyses conducted as part of the Regional Stormwater Management Program (RSMP) in annual reports. If a Permitee conducts independent monitoring according in accordance with requirements in S8.B or S8.C, annual reporting of such monitoring must follow the requirements specified in those sections.

S8.B.1 The City of Marysville has chosen Status and Trends Monitoring Option #1 for its method to meet the requirements of Section 8 of the NPDES Phase II Permit. Option #1 requires that the City will pay into a collective fund to implement RSMP small streams and marine nearshore status and trends monitoring in Puget Sound. The payments into the collective fund are due to the Department of Ecology annually beginning August 15, 2014. The payment amount for the City of Marysville into this monitoring program amounts to $14,172.

S8.C.1 Stormwater management program effectiveness studies requirement will be met by the City through Effectiveness Studies Option #1 listed in the Permit. The City will pay into a collective fund to implement RSMP effectiveness studies. The payments into the collective fund are due to Ecology annually beginning August 15, 2014. The City of Marysville pays a sum of $23,613 to meet this requirement.

S8.D Source identification and diagnostic monitoring requirements will be met by the City by paying into a collective fund to implement the RSMP Source Identification Information Repository (SIDIR). The payments into the collective fund are due to Ecology annually beginning August 15, 2014. The payment amount for the City of Marysville into this fund to meet this requirement is $2,190.